WHAT IS CLAIMED IS:

1. A method for acquiring operating parameters in a communications system operable to transmit a data signal, the method comprising the steps of:

generating at least one operating parameter carrier having a frequency value in a vicinity of a null of a data spectrum of the data signal;

modulating the at least one operating parameter carrier;

summing the operating parameter carrier with the data signal;

transmitting the summed signal; and

recovering the at least one operating parameter carrier from the summed signal.

2. The method of claim 1 wherein the generating step generates at least another operating parameter carrier having another frequency value in the vicinity of the null of the data spectrum.

3. The method of claim 1 wherein the communications system comprises at least one optical channel.

4. The method of claim 1 wherein the at least one operating parameter carrier is a sinusoid.

5. The method of claim 1 wherein the data spectrum of the data signal comprises a plurality of nulls, the method comprising the further steps of:

generating at least another operating parameter carrier having a frequency value in another of the plurality of nulls; and

summing the another operating parameter carrier with the data signal,

wherein the recovering step recovers the another operating parameter carrier.

6. The method of claim 5 wherein the communications system comprises a wavelength division multiplexed communications system.

7. The method of claim 6 wherein the data spectrum is an RZ spectrum.

8. The method of claim 6 wherein the data spectrum is an NRZ spectrum.

9. The method of claim 8 wherein the demodulating step includes the further steps of:

transmitting RZ format data; and

recovering NRZ format data from the RZ format data.

10. The method of claim 1 further comprising the step of bandwidth limiting the at least one operating parameter carrier.

11. The method of claim 1 wherein the demodulating step further includes the step of bandwidth filtering the summed signal.

12. A method for optical channel operating parameter acquisition in a communications system operable to transmit an NRZ data signal, comprising the steps of:

determining a spectrum for the NRZ data;

generating a first sinusoidal operating parameter carrier having a frequency at a first null in the spectrum and a second sinusoidal operating parameter carrier having a frequency at a second null in the spectrum, the second null being successive to the first null in the spectrum;

summing the first operating parameter carrier, the second operating parameter carrier and the NRZ data signal;

transmitting the summed signal; and

at a receiver, recovering the operating parameter carriers from the summed signal.

13. The method of claim 12 wherein the optical operating parameter carriers are modulated by NRZ operating parameter data, the method comprising the further steps of:

representing the NRZ operating parameter data in RZ format;

modulating the first carrier with the RZ format data; and

modulating the second carrier with the RZ format data,

the recovering step including the step of processing the RZ format data to provide NRZ operating parameter data.

14. The method of claim 12 wherein the recovering step includes the step of bandwidth filtering the summed signal.

15. A communications system comprising:

a channel;

a transmitter for transmitting a data signal, the data signal having a spectrum, the transmitter including:

an operating parameter carrier generator operable to provide an operating parameter carrier at a frequency having a value in a null of the spectrum; and

a summer for summing the operating parameter carrier and the data signal, wherein the transmitter transmits the summed signal over the channel; and

a receiver for receiving the summed signal, the receiver operable to recover the operating parameter carrier.

16. The communications system of claim 15 wherein the spectrum includes a plurality of nulls, the generator operable to provide another operating channel parameter carrier having a frequency in a successive one of the nulls.

17. The communications system of claim 16 wherein the operating channel parameter carriers are sinusoidal.

18. The communications system of claim 15 wherein the receiver includes a bandwidth filter for recovering the operating parameter carrier.

19. The communications system of claim 15 wherein the transmitter includes a filter for bandwidth limiting the summed signal.

20. The communications system of claim 15 wherein the channel includes an optical channel, the summer including an optocoupler.

21. The communications system of claim 20 wherein the communications system implements WDM.

22. The communications system of claim 21 wherein the data signal is an NRZ data signal.

23. The communications system of claim 22 wherein the spectrum includes a plurality of nulls, the generator operable to provide another operating channel parameter carrier having a frequency in a successive one of the nulls.

24. The communications system of claim 23 wherein the operating channel parameter carriers carry RZ format parameter data, the receiver further including a processor for providing NRZ format parameter data from the RZ parameter data.

25. The communications system of claim 15 wherein the operating parameter carrier is a sinusoid.

26. A communications system operable to transmit over an optical channel, comprising:

a transmitter for transmitting a data signal, the data signal having a spectrum, the transmitter including:

an operating parameter carrier generator operable to provide a first sinusoidal operating parameter carrier and a second sinusoidal operating parameter carrier, the first carrier having a frequency located in a null of the spectrum and the second carrier having a frequency located in a successive null in the spectrum, and

a summer for summing the operating parameter carriers and the data signal, wherein the transmitter transmits the summed signal over the channel, the carriers being modulated by NRZ operating parameter data; and

a receiver for receiving the summed signal, the receiver including:

a demodulator operable to recover the operating parameter carriers; and

a processor for providing NRZ operating parameter data from the RZ operating parameter data.